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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,932	08/21/2003	Dominique Gauthier	86503-76	7374
28291 7590 06/15/2007 FETHERSTONHAUGH - SMART & BIGGAR 1000 DE LA GAUCHETIERE WEST SUITE 3300 MONTREAL, QC H3B 4W5 CANADA			EXAMINER RUSSELL, WANDA Z	
			ART UNIT 2616	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/644,932

Applicant(s)

GAUTHIER ET AL.

Examiner

Wanda Z. Russell

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: ____. |

3 1 1

DETAILED ACTION

Claim Objections

1. **Claims 3 and 9** are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Both claims depend on themselves. For examination on the merits, the claims will be interpreted as the best understood.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claim 26** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed signal is non-statutory subject matter since it is not a process, machine, manufacture nor composition of matter. Instead, it includes a form of energy. Energy does not fall within a statutory category since it is clearly not a series of steps or acts to constitute a process, not a mechanical device or combination of mechanical devices to constitute a machine, not a tangible physical article or object which is some form of matter to be a product and constitute a manufacture, and not a composition of two or more substances to constitute a composition of matter.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-6, 17-21, and 27** are rejected under 35 U.S.C. 102(e) as being anticipated by Bernstein et al. (U.S. Patent 6,574,203 B2).

For **claim 1**, Bernstein et al. teach a device (apparatus, Title) for use in a wireless communication system (Abstract, line 1) comprising: an input device (receiver, 34-Fig. 2) for receiving a handoff trigger signal (col. 2, line 48, col. 3, lines 2-3, and 20-23, the trigger signal is generated based on received power and signal-to-noise values for both the new frequency and the current frequency) at a first mode (current frequency, col. 3, line 23) respective to a first coverage area (BS1-Fig. 1, and col. 2, line 66) of the communication system; an output device (transmitter, 35-Fig. 1) for delivering (direct, col. 4, line 46, and lines 44-47) the handoff signal at a second mode (new frequency, col. 3, line 23) respective to a second coverage area (BS2-Fig. 1, and col. 2, line 66); a converter (processor, 36-Fig. 2; and col. 3, lines 20-23, col. 4, lines 55-58) for translating the handoff trigger signal from the first mode into the second mode; the second mode handoff signal for indicating to a subscriber station (BS2-Fig. 1) operating in the second mode within both of the coverage areas (col. 4, lines 13-19) to switch from

the second mode to the first mode so that the subscriber station operates in the first coverage area (24, 26-Fig. 1, and col. 4. lines 13-19).

For **claim 2**, Bernstein et al. teach the device according to claim 1 wherein said first coverage area and said second coverage area of said system are based on a protocol selected from the group consisting of CDMA, TDMA, GSM, GPRS, AMPS and FDMA (any wireless system, col. 3, line 53, and lines 50-55).

For **claim 3**, Bernstein et al. teach the device according to claim 3 (should be 2) wherein said protocols respective to said coverage areas are different (any wireless system, col. 3, line 53, and lines 50-55).

For **claim 4**, Bernstein et al. teach the device according to claim 1 wherein said handoff trigger signal is a conventional CDMA re-direction signal (col. 3, lines 2-3), and wherein said first mode is a first frequency (current frequency, col. 3, line 23) and said second mode is a second frequency (new frequency, col. 3, line 23) different from said first frequency.

For **claim 5**, Bernstein et al. teach the device according to claim 4 wherein said first coverage area and said second coverage area are served by respective CDMA base stations (BS1-4, Fig. 1).

For **claim 6**, Bernstein et al. teach the device according to claim 5 wherein said device is integral with one of said base stations (Fig. 2, and col. 4, line 37).

For **claim 17**, Bernstein et al. teach a system (Fig. 1) for performing handoff (Abstract, line 1) comprising:

a first base station (BS1-Fig. 1) operating a first mode (current frequency, col. 3, line 23) and operable to generate a handoff trigger signal (col. 2, line 48) at said first mode;

a second base station (BS2-Fig. 1) operating a second mode (new frequency, col. 3, line 23);

a handoff device including an input device (receiver, 34-Fig. 2) for receiving said handoff trigger signal at said first mode; an output device (transmitter, 35-Fig. 1) for delivering (direct, col. 4, line 46, and lines 44-47) said handoff signal at said second mode in a coverage area respective to said second base station; a converter (processor, 36-Fig. 2; and col. 3, lines 20-23, col. 4, lines 55-58) for translating the handoff trigger signal from the first mode into the second mode; the second mode handoff signal for indicating to a subscriber station (BS2-Fig. 1) operating in the second mode within both of the coverage areas (col. 4, lines 13-19) to switch from the second mode to the first mode (24, 26-Fig. 1, and col. 4. lines 13-19).

For **claim 18**, Bernstein et al. teach the system according to claim 17 wherein said first base station and said second base station of said system are based on a protocol selected from the group consisting of CDMA, TDMA, GSM, GPRS, AMPS and FDMA (any wireless system, col. 3, line 53, and lines 50-55).

For **claim 19**, Bernstein et al. teach the system according to claim 18 wherein said protocols respective to said coverage areas are different (any wireless system, col. 3, line 53, and lines 50-55).

For **claim 20**, Bernstein et al. teach the system according to claim 17 wherein said handoff trigger signal is a conventional CDMA re-direction signal (col. 3, lines 2-3), and wherein said first mode is a first frequency (current frequency, col. 3, line 23) and said second mode is a second frequency (new frequency, col. 3, line 23) different from said first frequency.

For **claim 21**, Bernstein et al. teach the system according to claim 17 wherein said handoff device is integral with said first base station (Fig. 2, and col. 4, line 37).

For **claim 27**, Bernstein et al. teach a device (apparatus, Title) for use in a wireless communication system (Abstract, line 1) comprising: an input device (receiver, 34-Fig. 2) for receiving a handoff trigger signal (col. 2, line 48) at least one additional mode (col. 4, lines 16-17) respective to at least one additional coverage area (BS1-4, Fig. 1, and col. 2, line 66); a converter (processor, 36-Fig. 2; and col. 3, lines 20-23, col. 4, lines 55-58) for translating the handoff trigger signal from the first mode into the additional mode; the additional mode handoff signal for indicating to a subscriber station (BS2-Fig. 1) operating in the additional mode within the coverage areas (col. 4, lines 13-19) to switch from the additional mode to the first mode so that the subscriber station operates in the first coverage area (24, 26-Fig. 1, and col. 4, lines 13-19).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 7, 8, 22, 23, 28, 29, and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernstein et al. (U.S. Patent 6,574,203 B2) in view of Chang et al. (U.S. Patent 6,621,811 B1).

For **claim 7**, Bernstein et al. teach everything claimed as applied above (see claim 1 and 4). In addition, Bernstein et al. teach the device according to claim 4 wherein said converter comprises a down-converter (receiver, col. 4, line 41, and lines 40-44) operable to receive said handoff trigger signal from said input device and for converting said handoff trigger from said first frequency to an intermediate frequency and an up-converter (transmitter, col. 4, line 45, and lines 44-46) for converting said intermediate frequency to said second frequency.

However, Bernstein et al. fail to specifically teach an intermediate frequency.

Chang et al. teach such an intermediate frequency (col. 9, lines 51-52).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine [Bernstein et al.] with [Chang et al.] to obtain the invention as specified for providing a precision handoff.

For **claim 8**, Bernstein et al. teach everything claimed as applied above (see claim 1, 4, and 7). In addition, Bernstein et al. teach the device according to claim 7 further comprising a microcontroller (processor, 35-Fig. 2) operably connected to said down-converter and said up-converter (34, 35-Fig. 2) such that said first frequency and said second frequency is user-selectable (col. 6, lines 8-11).

For **claim 22**, Bernstein et al. teach everything claimed as applied above (see claim 17, and 20). In addition, Bernstein et al. teach the system according to claim 20

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wherein said converter comprises a down-converter (receiver, col. 4, line 41, and lines 40-44) operable to receive said handoff trigger signal from said input device and for converting said handoff trigger from said first frequency to an intermediate frequency and an up-converter (transmitter, col. 4, line 45, and lines 44-46) for converting said intermediate frequency to said second frequency.

However, Bernstein et al. fail to specifically teach an intermediate frequency.

Chang et al. teach such an intermediate frequency (col. 9, lines 51-52).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine [Bernstein et al.] with [Chang et al.] to obtain the invention as specified for providing a precision handoff.

For **claim 23**, Bernstein et al. teach everything claimed as applied above (see claim 17, 20, and 22). In addition, Bernstein et al. teach the system according to claim 22 further comprising a microcontroller (processor, 35-Fig. 2) operably connected to said down-converter and said up-converter (34, 35-Fig. 2) such that said first frequency and said second frequency is user-selectable (col. 6, lines 8-11).

For **claim 28**, it is a method claim corresponding to method claim 1 and 7.

Therefore it is rejected for the same reason above.

For **claim 29**, it is a means claim corresponding to method claim 1 and 7.

Therefore it is rejected for the same reason above.

For **claim 34**, Bernstein et al. teach a handoff device (apparatus, Title) for use in a wireless CDMA communication system (Abstract, line 1) comprising an input device (receiver, 34-Fig. 2) for receiving a CDMA re-direction signal (col. 3, lines 2-3) at a first

frequency (current frequency, col. 3, line 23) respective to a first coverage area (BS1-Fig. 1, and col. 2, line 66) of said communication system; an output device (transmitter, 35-Fig. 1) connected to said second converter for delivering said CDMA re-direction signal at said second frequency (new frequency, col. 3, line 23) within a second coverage area (BS2-Fig. 1, and col. 2, line 66); said CDMA re-directional signal for indicating to a subscriber station (BS2-Fig. 1) operating in said second frequency and within both of said coverage areas (col. 4, lines 13-19) to switch from said second frequency to said first frequency so that said subscriber station operates in said first coverage area (24, 26-Fig. 1, and col. 4. lines 13-19).

However, Bernstein et al. fail to specifically teach a first converter connected to said input device for converting said CDMA re-direction signal from said first frequency to an intermediate frequency; a second converter connected to said first converter for converting said CDMA re-direction signal from said intermediate frequency to a second frequency.

Chang et al. teach a first converter (mixer, 78-Fig. 8) connected to said input device for converting said CDMA re-direction signal from said first frequency to an intermediate frequency (col. 9, lines 51-52); a second converter (2nd mixer, 78-Fig. 8) connected to said first converter for converting said CDMA re-direction signal from said intermediate frequency to a second frequency.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine [Bernstein et al.] with [Chang et al.] to obtain the invention as specified for providing a precision handoff.

8. **Claims 9, 10-16, 24, and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernstein et al. (U.S. Patent 6,574,203 B2) in view of Chang et al. (U.S. Patent 6,621,811 B1), and Jonssen et al. (U.S. Patent 5,513,246).

For **claim 9**, Bernstein et al. and Chang et al. teach everything claimed as applied above (see claim 1, 4, 7 and 8). In addition, Bernstein et al. teach the device according to claim 9 (should be 8) wherein said microcontroller is further operable to perform at least one of logging (col. 8, lines 35-39) various conversions performed by said converter.

However, they fail to specifically teach generating alarms if said converter operates outside of desired specifications.

Jonssen et al. teach generating alarms if said converter operates outside of desired specifications (col. 11, line 39, and lines 31-40).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine [Bernstein et al.] with [Chang et al.] and [Jonssen et al.] to obtain the invention as specified for providing additional refinements.

For **claim 24**, Bernstein et al. and Chang et al. teach everything claimed as applied above (see claim 12, 20, 22 and 23). In addition, Bernstein et al. teach the system according to claim 23 wherein said microcontroller is further operable to perform at least one of logging (col. 8, lines 35-39) various conversions performed by said converter, and generating alarms if said converter operates outside of desired specifications.

However, they fail to specifically teach generating alarms if said converter operates outside of desired specifications.

Jonssen et al. teach generating alarms if said converter operates outside of desired specifications (col. 11, line 31, and lines 31-34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine [Bernstein et al.] with [Chang et al.] and [Jonssen et al.] to obtain the invention as specified for providing additional refinements.

Claims 10-16, and 25 are method claims corresponding to method claim 1-9. Therefore they are rejected for the same reason above.

9. **Claims 30-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernstein et al. (U.S. Patent 6,574,203 B2) in view of Schwartz (U.S. Patent 6,556,551 B1).

For **claim 30**, Bernstein et al. teach a base station (BS1-Fig. 1) for use in a wireless communication system (Abstract, line 1) comprising said base station further including a device for performing handoff comprising an input device (receiver, 34-Fig. 2) for receiving a handoff trigger signal (col. 2, line 48) at a first mode (current frequency, col. 3, line 23) respective to a first coverage area (BS1-Fig. 1, and col. 2, line 66) of the communication system; an output device (transmitter, 35-Fig. 1) for delivering (direct, col. 4, line 46, and lines 44-47) the handoff signal at a second mode (new frequency, col. 3, line 23) respective to a second coverage area (BS2-Fig. 1, and col. 2, line 66); a converter (processor, 36-Fig. 2; and col. 3, lines 20-23, col. 4, lines 55-58) for translating the handoff trigger signal from the first mode into the second mode; the

second mode handoff signal for indicating to a subscriber station (BS2-Fig. 1) operating in the second mode within both of the coverage areas (col. 4, lines 13-19) to switch from the second mode to the first mode so that the subscriber station operates in the first coverage area (24, 26-Fig. 1, and col. 4. lines 13-19).

However, Bernstein et al. fail to specifically teach the system comprising a radio-transceiver for receiving and transmitting radio communications to a plurality of subscriber stations, data-processing equipment for carrying at least a portion of said communications over a backhaul.

Schwartz teaches the system comprising a radio-transceiver (110A, 110B-Fig. 3, and col. 5, line 13) for receiving and transmitting radio communications to a plurality of subscriber stations (col. 5, line 17), data-processing equipment (118-Fig. 5, and col. 7, line 6) for carrying (col. 7, line 12-14) at least a portion of said communications over a backhaul.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine [Bernstein et al.] with [Schwartz] to obtain the invention as specified for providing additional refinements of pilot channels.

For **claim 31**, Bernstein et al. and Schwartz teach everything claimed as applied above (see claim 30). In addition, Bernstein et al. teach the base station according to claim 30 wherein said base station is based on the CDMA (Abstract, line 1) protocol.

For **claim 32**, Bernstein et al. and Schwartz teach everything claimed as applied above (see claim 30). In addition, Bernstein et al. teach the base station according to

claim 30 wherein the radio-transceiver is operable to receive and transmit radio communications to the plurality of subscriber stations (BS1-4 –Fig. 1) in the first mode.

For **claim 33**, Bernstein et al. and Schwartz teach everything claimed as applied above (see claim 30). In addition, Bernstein et al. teach the base station according to claim 30 further comprising a handoff trigger generator (36-Fig. 2, and col. 4, lines 55-58) for generating the handoff trigger signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wanda Z. Russell whose telephone number is (571) 270-1796. The examiner can normally be reached on Monday-Thursday 9:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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